



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

D2741
Job Sheet 175664



Part No: D2741

Job Qty: 40 ea

Part Name: Replacement Blade



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 4/10/18

Job Tracking No:

Due Date: 4/23/18

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG REV E IPP Rev: D 00.11.15 Removed P/O turning - in house process EC IPP Rev: E 06-03-20 As Per
Rev C JLM IPP Rev: F

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	40 Ea	3/16/18	3/16/18	0.00	0.00	Start Up Machining-1		DAS 18/05/18
100	Bandsaw	40 pcs	3/16/18	3/16/18	0.00	3.11	Bandsaw1		52 18/05/18
110	CNC Vertical Machining	40 pcs	3/17/18	3/17/18	0.00	27.45	HAAS1-2		J-89 18/05/18
130	QC	40 pcs	3/17/18	3/17/18	0.00	0.00	QC8 Machining-1		B.A. 18-05-08
140	Small Fab	40 pcs	3/19/18	3/19/18	0.04	0.68	Small Fab-2		DAS 30
150	QC	40 pcs	3/19/18	3/19/18	0.00	0.00	QC5		35 38
160	Outsource	40 pcs	4/21/18				ME1001-VG Atlantic	25	CT 18-5-28
170	Packaging	40 pcs	4/21/18	4/21/18	0.00	0.00	Packaging2		AT 18/06/18
180	QC	40 pcs	4/21/18	4/21/18	0.00	0.00	QC5		38
190	HandFinish	40 pcs	4/21/18	4/21/18	0.00	2.47	HandFinish4		SA 18-06-13
200	Powdercoat	40 pcs	4/23/18	4/23/18	0.00	1.02	Powdercoat2		BK 18-06-22
210	QC	40 pcs	4/23/18	4/23/18	0.00	0.00	QC3		PD 18-07-04
220	Packaging	40 pcs	4/23/18	4/23/18	0.00	0.00	Packaging3-1		7535 JUL 09 2018
230	QC21-SA	40 Ea	4/23/18	4/23/18	0.00	0.00	QC21		DAS 21 JUL 09 2018

Part Op 100 - Cut blanks 13.850" long +0.063" -0.000"

Descriptions: 110 - 1-Machine per folio FA108

140 - 1-Debur

160 - Issue P/O: 040019

170 - Ensure Test report or Certification attached

190 - clean with wash & wipe to remove oil

200 - START TIME: 8:00

05:15:00 FINISH: 8:30 M138539

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NB0.500X03.000	4130 Bar 0.500 X 3.00	46.1640 ft (1.1541 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	M4130NB0.500X03.000	46	60	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																							
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Description Work Order Deviation			Disposition																																								
DART Aerospace Ltd. 1270 Abercrombie Street Mississauga, ON K4V 1K7 CANADA TEL: 1-813-832-6200 Email: sales@dartaero.com www.dartaero.com Container No: S068565 Part: D2741 Job No: 175664 Serial No/Batch: S068565 Revision: Inspector: Date: 05/04/18					Completed By and / Supervisor Approval Verification																																						
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OTHER : _____																																											

1	Blade	1.500Inches $\pm$ 0.010	1.510 1.490	
2	Blade	0.715Inches $\pm$ 0.010	0.725 0.705	
3	Blade	0.516Inches $\begin{matrix} + 0.008 \\ - 0.001 \end{matrix}$	0.524 0.515	Diameter
4	Blade	2.000Inches $\pm$ 0.030	2.030 1.970	
5	Blade	13.750Inches $\pm$ 0.010	13.760 13.740	
6	Blade	1.060Inches $\begin{matrix} + 0.012 \\ - 0.001 \end{matrix}$	1.072 1.059	Diameter
7	Blade	0.150Inches $\pm$ 0.010	0.160 0.140	
8	Blade	2.930Inches $\pm$ 0.030	2.960 2.900	
9	Blade	0.375Inches $\pm$ 0.010	0.385 0.365	
10	Blade	0.250Inches $\pm$ 0.030	0.280 0.220	
11	Blade	0.250Inches $\pm$ 0.030	0.280 0.220	

Plex 4/10/18 8:38 AM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐				
Date :	Step #:	QTY Effective :			MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By	
					Lead hand / Supervisor Approval Verification	
					QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
OTHER : _____						



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040019**

Supplier: ATL002-VC
Atlantic Heat Treat 2001
401 Frankcom
Ajax
ON
L1S R14 Canada
Phone: 866 257 6395

PO No: PO040019
PO Date: 5/28/18
Due Date: 6/5/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	175664	D2741	Replacement Blade Issue P/O: _____ Material: AISI 4130N STEEL BAR PER MIL-S-6758 HEAT TREAT TO MIN. ULTIMATE TENSILE STRENGTH - 152 ksi AND MIN. YIELD TENSILE STRENGTH - 141 ksi PER MIL-S-6758 OR AMS2759/1E AFTER MACHINING	Firmed	6/5/18	40 pcs	0 pcs	40 pcs	\$6.25525/pcs	\$250.21

Grand Total: \$250.21

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 6/4/18 1:42 PM dart.tsimiklis.chrisoula

Certification

Date: 05/31/2018

Entry Date: 05/29/2018

Page: 1 of 1

To:DART AEROSPACE LTD.
1270 ABERDEEN ST

Purchase Order No.: 040019

Packing List No.:

HAWKESBURY ON K6A 1K7

Material: 4140

We are pleased to provide you with the following Certificate of Compliance.

Quantity	Part Number / Part Name / Part Description	Pounds
40	40PCS MATERIAL 4130 HEAT TREAT TO 34-38 RC SANDBLAST AND C OF C	147

Insp. Type	Scale	Minimum	Maximum	Number	Other
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Customer Requirements:

Harden rockwell

Results:

Harden ROCKWE	34.	38.	38. TESTED AS PER SAMPLING PLAN
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HEAT TREATED TO 38 RC AS PER CUSTOMER REQUEST

STATEMENT OF LIMITED LIABILITY (PLEASE READ CAREFULLY). ALL WORK IS ACCEPTED SUBJECT TO THE FOLLOWING CONDITIONS: It is recognized that even after employing all the scientific methods known to us, hazards still remain in metal treating. THEREFORE, OUR LIABILITY SHALL NOT EXCEED TWICE THE AMOUNT OF OUR CHARGES FOR THE WORK DONE ON ANY MATERIAL (FIRST TO REIMBURSE FOR THE CHARGES AND SECOND TO COMPENSATE IN THE AMOUNT OF THE CHARGES), EXCEPT BY WRITTEN AGREEMENT SIGNED BY THE METAL TREATER. THE CUSTOMER, BY CONTRACTING FOR METAL TREATMENT, AGREES TO ACCEPT THE LIMITS OF LIABILITY AS EXPRESSED IN THIS STATEMENT TO THE EXCLUSION OF ANY AND ALL PROVISIONS AS TO LIABILITY ON THE CUSTOMER'S OWN INVOICES, PURCHASE ORDERS OR OTHER DOCUMENTS. IF THE CUSTOMER DESIRES HIS OWN PROVISIONS AS TO LIABILITY TO REMAIN IN FORCE AND EFFECT, THIS MUST BE AGREED TO IN WRITING, SIGNED BY AN OFFICER OF THE TREATER, IN SUCH EVENT, A DIFFERENT CHARGE FOR OUR SERVICES REFLECTING THE HIGHER RISK TO TREATER, SHALL BE DETERMINED BY THE TREATER AND CUSTOMER. THE TREATER MAKES NO EXPRESS OR IMPLIED WARRANTIES AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF THE FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, AS TO THE PERFORMANCE OF CAPABILITIES OF THE MATERIAL AS HEAT TREATED, OR THE HEAT TREATMENT. THE FOREMENTIONED LIMITATION OF LIABILITY STATED ABOVE IS SPECIFICALLY IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND OF ANY OTHER SUCH OBLIGATION ON THE PART OF THE TREATER. No claim for shortage in weight or count will be entertained unless presented within five (5) working days after receipt of materials by customer. No claim will be allowed for shrinkage, expansion, deformity or rupture of material in treating or straightening, except by prior written agreement, as above, nor in any case for rupture caused by or occurring during subsequent grinding. Whenever we are given material with detailed instructions as to treatment, our responsibility shall end with the carrying out of those instructions. Failure by a customer to indicate plainly and correctly the kind of material (i.e., proper alloy designation) to be treated, shall cause an extra charge to be made to cover any additional expense incurred as a result thereof, but shall not change the limitation of liability stated above. Customer agrees there will be no liability on the treater in contract for any special, indirect or consequential damages arising whatsoever, including but not limited to personal injury, property damage, loss of profits, loss of production, recall or any other losses, expenses or liabilities allegedly occasioned by the work performed on the part of the treater. It shall be the duty of the customer to inspect the merchandise immediately upon its return, and in any event claims must be reported prior to the time that any further processing, assembling or any other work undertaken. OUR LIABILITY TO OUR CUSTOMERS SHALL CEASE ONCE ANY FURTHER PROCESSING, ASSEMBLING OR ANY OTHER WORK HAS BEEN UNDERTAKEN ON SAID MATERIAL. No agent or representative is authorized to alter the above conditions, except by writing duly signed by an officer of treater.


KEAN SHEPHERD
QUALITY CONTROL
ATLANTIC HEAT TREATING 2001 LTD